City of Bridgeport
Energy Improvement District
Anaerobic Digester Community Meeting
March 27, 2012 5:30 PM

The City of Bridgeport will be holding a Community Meeting on March 27, 2012 at the Aquaculture Building at 5:30 PM to discuss plans to construct an anaerobic digester and cogeneration system at their West Side wastewater treatment plant.

The City of Bridgeport is served by two (2) wastewater treatment facilities owned by the Bridgeport Water Pollution Control Authority (WPCA) and privately operated by KGI Bridgeport Company. The East Side plant with a treatment capacity of 10 million gallons per day (MGD) is located at 695 Seaview Avenue, Bridgeport, CT. The West Side plant with a treatment capacity of 30 MGD is located at 205 Bostwick Avenue, Bridgeport, CT. The activated sludge process (ASP) is currently used at both plants to treat the wastewater to meet specific effluent discharge requirements. As a result of the treatment processes, solids consisting of primary sludge and waste activated sludge (WAS) are produced. At both plants the biosolids are dewatered via gravity thickeners and gravity belt thickeners to increase the solids contents to about 4 or 5 %. The concentrated biosolids are trucked twenty two (22) miles to New Haven, CT, where they are combusted in a multiple-hearth incinerator. Through the Bridgeport WPCA, the City uses 333 trucks per month, traveling 13,255 miles per month to transport the biosolids to the New Haven Facility.

To complement the Bridgeport B-Green 2020 Initiative, GHD, Inc. of Trumbull, CT was retained by the City of Bridgeport to evaluate the costs and benefits of various alternatives to treat the biosolids from the two wastewater treatment facilities. A report entitled “Biosolids to Energy Feasibility Study” was prepared by GHD in February 2001. GHD developed several biosolids alternative conceptual strategies to compare to the current hauling to the New Haven incinerator. GHD concluded that anaerobic digestion with capture of biogas to produce energy was worth further consideration.

Anaerobic digestion is the process by which organic materials are broken down by micro-organisms, in the absence of oxygen. Anaerobic digestion produces biogas. Anaerobic digestion takes place in enclosed vessels called Anaerobic Digesters. The Cogeneration system will produce electricity from the biogas that will be utilized by the treatment plant, which is a large electricity user; thereby reducing its purchase of electricity from the grid. The useful heat will be used for process applications and general heating further reducing energy costs. Once this new process is in place the City will reduce the number of trucks transporting biosolids to New Haven to 280 trucks per month, traveling 8,336 miles per month. This represents a 37% reduction in mileage and emissions per month.

The next step, the City of Bridgeport intends to solicit proposals from qualified design build firms, joint ventures, or partnerships to (i) design and build an anaerobic digestion facility for the biosolids produced by the two wastewater plants, and (ii) develop an economically viable and self-supporting beneficial utilization of the biogas for the production of energy via co-generation. Bids for this proposal will be accepted in July 2012.